### (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 29 December 2004 (29.12.2004)

**PCT** 

(10) International Publication Number WO 2004/112866 A2

(51) International Patent Classification7:

**A61M** 

(74) Agent: LANE, Bradley, G.; Brinks Hofer Gilson & Lione, P.O.Box 10087, Chicago, IL 60610 (US).

(21) International Application Number:

PCT/US2004/019641

(22) International Filing Date: 17 June 2004 (17.06.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/479,403

17 June 2003 (17.06.2003) US

- (71) Applicant (for all designated States except US): FIL-TERTEK INC. [US/US]; 11411 Price Road, Hebron, IL 60034-8936 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): RUSCHKE, Ricky, R. [US/US]; 1401 Ginny Lane, Woodstock, IL 60098 (US). KANDEL, Edward [US/US]; 2816 Dutch Circle, McHenry, IL 60050 (US). LEONHARD, Michael, G. [US/US]; 2812 Killdeer Court, West Bend, WI 53095 (US). KINSLEY, Mark, A. [US/US]; N1651 Geneva Avenue, Lake Geneva, WI 53147 (US). LEAHEY, John, A. [US/US]; 538 Barbary Lane, Woodstock, IL 60098 (US). MIJERS, Jan, W., M. [NL/NL]; Mecklenburgstraat 9, NL-5913 TP Venlo (NL). KAY, Ronald, J. [US/US]; 1960 Abbotsford Dr., Barrington, IL 60010 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HIJ, ID, II, IN, IS, IP, VE
  - GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

### Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FLUID HANDLING DEVICE AND METHOD OF MAKING SAME

(57) Abstract: A fluid handling device, such as a needlefree access device, includes a housing having an inlet and an inlet channel; and a flow control member comprising a combination outlet, biasing and piston member. The flow control member includes a piston section moveable between a closed position in which the piston section is in the inlet channel and an open position in which the piston section is inside the housing below the inlet channel but allows fluid to flow through the inlet channel; a biasing section connected to the piston section that normally biases the piston section into the inlet channel; and an outlet section connected to the biasing section having an outlet fitting in fluid communication with the inside of the housing. The piston section, biasing section and outlet section are connected together such that they can be handled as one piece when assembled with the housing to make the needlefree access device. The access device can be configured as a Y-site access device, or used on other devices, such as an IV bag. A check valve made by a two shot molding process is also disclosed.



WO 2004/112866

# (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 29 December 2004 (29.12.2004)

**PCT** 

# (10) International Publication Number WO 2004/112866 A3

(51) International Patent Classification?: F16L 29/00, 37/28, A61M 5/00

F16K 51/00,

(21) International Application Number:

PCT/US2004/019641

(22) International Filing Date: 17 J

17 June 2004 (17.06.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/479,403

17 June 2003 (17.06.2003) US

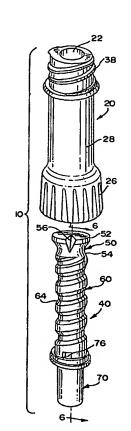
- (71) Applicant (for all designated States except US): FIL-TERTEK INC. [US/US]; 11411 Price Road, Hebron, IL 60034-8936 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): RUSCHKE, Ricky,

R. [US/US]; 1401 Ginny Lane, Woodstock, IL 60098 (US). KANDEL, Edward [US/US]; 2816 Dutch Circle, McHenry, IL 60050 (US). LEONHARD, Michael, G. [US/US]; 2812 Killdeer Court, West Bend, WI 53095 (US). KINSLEY, Mark, A. [US/US]; N1651 Geneva Avenue, Lake Geneva, WI 53147 (US). LEAHEY, John, A. [US/US]; 538 Barbary Lane, Woodstock, IL 60098 (US). MIJERS, Jan, W., M. [NL/NL]; Mecklenburgstraat 9, NL-5913 TP Venlo (NL). KAY, Ronald, J. [US/US]; 1960 Abbotsford Dr., Barrington, IL 60010 (US).

- (74) Agent: LANE, Bradley, G.; Brinks Hofer Gilson & Lione, P.O.Box 10087, Chicago, IL 60610 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

[Continued on next page]

### (54) Title: FLUID HANDLING DEVICE AND METHOD OF MAKING SAME



(57) Abstract: A fluid handling device, such as a needlefree access device, includes a housing having an inlet and an inlet channel; and a flow control member comprising a combination outlet, biasing and piston member. The flow control member includes a piston section moveable between a closed position in which the piston section is inside the housing below the inlet channel but allows fluid to flow through the inlet channel; a biasing section connected to the piston section that normally biases the piston section into the inlet channel; and an outlet section connected to the biasing section having an outlet fitting in fluid communication with the inside of the housing.

## WO 2004/112866 A3

ECERTA CURRENTA CONTRA MANTA CONTRA C

MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- (88) Date of publication of the international search report: 14 April 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.